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ABSTRACT

The specific content areas and objectives from which the Alberta, Canada, Grade 3 Science Achievement Test questions were derived are outlined in this bulletin. The document contains: (1) curriculum summary (providing a general listing of the process skills, psychomotor skills, attitudes, and subject matter covered at the grade 3 level); (2) a detailed listing of the process skills (specifying skills related to observation, measurement, classification, communication, inference, and prediction); and (3) subject matter (identifying topics covered in the areas of matter and energy, living things and the environment, and earth, space, and time). Priority rankings and percent emphases are coded to each skill and subject matter area. (ML)

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GRADE 3 SCIENCE CURRICULUM SPECIFICATIONS

CURRICULUM BRANCH

SE 041 342

Alberta EDUCATION

May 1986

GRADE 3 SCIENCE CURRICULUM SUMMARY

	Per Cent Emphases
PROCESS SKILLS	55
Observing	13
Measuring	10
Classifying	10
Communicating	12
Inferring	5
Predicting	5
PSYCHOMOTOR SKILLS	10
Manipulating	4
Constructing	4
Spatial Relations	2
ATTITUDES	15
Toward Science	10
Others	5

	Per Cent Emphases
SUBJECT MATTER	20
MATTER AND ENERGY	9
Properties of Objects	3
Properties of Matter	3
Energy	3
LIVING THINGS AND ENVIRONEMNT	9
Living Things	2
Plants and Animals	4
Environment	3
EARTH, SPACE, AND TIME	2
Order and Time	2

PROCESS SKILLS

Priority		Per Cent Emphases
	Observing	
A	- Identifying, using the five senses, properties, or characteristics of objects	
A	- Describing (verbally and in written work) an object on the basis of sensory information	
C	- Describing qualitative changes within objects	13
C	- Distinguishing between observations and inferences	
C	- Describing objects, change, and interaction of objects in the environment	
C	- Making predictions and inferences on the basis of observations	
	Measuring	
A	- Using simple instruments for measurement	
B	- Selecting appropriate devices for measuring	
B	- Collecting data using appropriate measuring devices	
C	- Estimating the measure of an object	
C	- Organizing measurement data into communicable forms, such as graphs, maps, tables, etc.	10
C	- Making comparative measurements - lighter than, heavier than	
C	- Ordering on the basis of comparative measurements	
C	- Using arbitrary measurement units (washers, paper clips, swings of a pendulum)	
C	- Discovering the need for a standard unit	

CODE: A - High Priority
B - Medium Priority
C - Low Priority

Priority		Per Cent Emphases
	Classifying	
A	- Identifying the condition or basis of a given classification set	
A	- Applying a self-devised classification scheme to a given set of objects, situations, or events	10
A	- Classifying objects according to attributes or properties (color, shape, size, texture, etc.)	
B	- Classifying objects first on one property, then on the basis of two properties, and so on	
C	- Classifying objects, situations, or events according to given, or to self-imposed conditions	
	Communicating	
A	- Describing verbally the observable properties of objects	
A	- Describing verbally an object as it undergoes change	
B	- Describing observations in written form: simple words, phrases to sentences, paragraphs, reports	12
B	- Constructing simple pictographs and bar graphs	
C	- Drawing simple diagrams	
C	- Using written units of measurement and their symbols	
C	- Recording responses by using simple symbols: x's, ✓'s	
C	- Filling in charts using simple symbols	

Priority		Per Cent Emphases
	Inferring	
A	- Making observations by using all five senses	
C	- Making as many observations as possible, and choosing only those inferences that account for all observations made	
C	- Testing inferences by making more observations, and revising inferences if additional observations do not support the original inference	
C	- Making and testing inferences when confronted with unfamiliar phenomena	5
C	- Applying the inferring process to situations which require direct observations	
C	- Describing objects, situations, and events in written form in reports, etc.	
C	- Using units of measurement, and their symbols, to communicate quantitative observations	
	Predicting	
A	- Making reasonable predictions that have been based on past experience	
C	- Measuring for accuracy	5
C	- Testing the results of a prediction by: a. teacher-directed tests b. student-constructed tests	

SUBJECT MATTER

MATTER AND ENERGY

Priority		Per Cent Emphases
	1. Properties of Objects	
	Students will:	
A	- OBSERVE the properties of objects using their five senses	3
A	- COMPARE, ORDER, and CLASSIFY objects according to one or more properties	
A	- DESCRIBE and RECORD their observations of properties of objects	
	2. Properties of Matter	
	Students will:	
A	- CLASSIFY given materials as solids, liquids, or gases	
A	- OBSERVE properties and behavior of solids and CLASSIFY them according to: a. metallic - non-metallic b. float - sink c. soluble - insoluble d. magnetic - non-magnetic	
A	- OBSERVE samples of liquids and CLASSIFY them according to the degree of properties such as: a. color b. transparency to light c. viscosity	3
A	- OBSERVE and DESCRIBE matter undergoing changes such as freezing, melting, evaporating, heating, cooling	
C	- OBSERVE that gases occupy space and exert pressure	
A	- MEASURE and compare masses and volumes of samples of matter	
B	- DEMONSTRATE various methods of organizing and displaying information gathered	

Priority		Per Cent Emphases
	3. Energy Students will:	
A	- NAME, DESCRIBE, and CLASSIFY some sources and forms of energy (heat, light, sound, electricity)	
A	- MEASURE changes in heat energy using a thermometer	3
B	- DESCRIBE, COMPARE, and DEMONSTRATE behaviors that conserve energy in their environment	
C	- IDENTIFY the sun as the primary source of the earth's energy	
A	- DESCRIBE and DEMONSTRATE ways we use energy in our daily lives	

Priority	LIVING THINGS AND ENVIRONMENT	Per Cent Emphases
	1. Living Things	
	Students will:	
A	- CLASSIFY objects as living and non-living	2
A	- OBSERVE, DESCRIBE, and CLASSIFY living things according to their unique characteristics and behaviors	
	2. Plants and Animals	
	Students will:	
A	- CLASSIFY living things as plants or animals	
A	- DESCRIBE and CLASSIFY plants and animals in various ways, e.g., locomotion, habitat, groups with common characteristics	4
A	- OBSERVE, MEASURE, DESCRIBE, and RECORD stages in the growth of plants	
B	- OBSERVE and MEASURE characteristics of seeds, e.g., size, shape, dispersal	
C	- DESCRIBE proper care of plants and animals, such as pets	
	3. Environment	
	Students will:	
A	- OBSERVE, IDENTIFY, and DESCRIBE those changes in the environment that have resulted from man's activities	3
A	- INFER the consequences or outcomes of changes, both man-made and natural, which occur in the environment	
B	- IDENTIFY various parts of an environment and begin to infer their interdependence	

Priority	EARTH, SPACE AND TIME	Per Cent Emphases
	1. Order and Time Students will:	
A	- OBSERVE, DESCRIBE, MEASURE, and RECORD changes that occur in their environment	
A	- OBSERVE, DESCRIBE, and MEASURE changes that occur over varying periods of time	2
A	- OBSERVE, DESCRIBE, and ORDER changes that occur in a regular pattern	
C	- INFER that observed changes may be classified as reversible	